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EG&G ROCKY FLATS

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August 5, 1994 94-RF-08080

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THE SUBSURFACE AND SURFACE WATER INTERIM MEASURE/INTERIM REMEDIAL ACTIONS AT OPERABLE UNIT 2 - GRK-30-94

Action: Department Of Energy's concurrence

This letter is written in response to the meeting held on July 20, 1994, between the Department of Energy, Rocky Flats Field Office (DOE/RFFO) and EG&G Rocky Flats, Inc. The meeting was held to discuss both the Subsurface and Surface Water Interim Measures/Interim Remedial Actions (IM/IRAs) at Operable Unit 2 (OU 2). Based on discussions in that meeting, EG&G Rocky Flats, Inc. is recommending the following actions.

SUBSURFACE IM/IRA SOIL VAPOR EXTRACTION (SVE) PILOT TEST PROGRAM

The Subsurface IM/IRA Plan identified SVE as an *in-situ* method to be demonstrated at three geologically distinct environments within OU 2. The original objective of the IM/IRA Plan was to collect information that would aid in the selection and design of final remedial actions at OU 2 (Subsurface Interim Measures/Interim Remedial Action Plan/Environmental Assessment and Decision Document, 1992). Project success was to be gauged by the usefulness of the data collected with respect to the final remedial design and not by the degree of clean-up achieved. The Pilot Test period for Test Site 1 was completed on June 6, 1994. Test Site 2 is in the planning and design stage, and Test Site 3 is in the preliminary planning stage.

A provision for post-pilot or extended operations was included in the IM/IRA Plan. The objective of extended operations, according to the IM/IRA Plan, is to recover significant amounts of VOCs from the test areas. Pilot test data would be evaluated with respect to the following criteria:

- Mass of VOCs recovered per unit cost.
- Mass of VOCs recovered per unit time.
- Areal influence of vapor extraction system.
- Ability to successfully control the mobility of contaminants.
- Ability to successfully de-water aquifer material (if present).

Extended operations at Individual Hazardous Substance Site (IHSS) 110 began on June 30, 1994. Extraction of subsurface Volatile Organic Compounds (VOCs) is occurring within the

alluvial units only. The system consists of two extraction wells that are producing 1/2 to 3/4 pounds per hour total VOCs. The system is extracting at a rate of approximately 50 standard cubic feet per minute (scfm), at a concentration of approximately 700 ppm/v. The radius of influence outside of the trench boundary is approximately 10-15 feet. The radius of influence within the trench will be evaluated upon installation of geoprobes within the trench boundaries, which is scheduled to take place in August, 1994.

Based on the current configuration and staffing, the operating costs are estimated at approximately $325 per pound of total VOCs removed. This estimate excludes EG&G Rocky Flats, Inc. management, analytical charges and the costs associated with granular activated carbon (GAC) changeouts.

Continued operation of the existing SVE system at IHSS 110 will only add to the cost of remediation in the future. As was presented in the Test Plan, Test Site No. 2 of the Test Program will be conducted at IHSS 110 and will utilize SVE enhanced with Six-Phase Soil Heating (SPSH) to address the remaining subsurface VOC contamination.

The Test Site 2 system will consist of multiple heating arrays installed along the length of the trench, operated in series, in an effort to demonstrate remediation of the entire trench at IHSS 110. Upon completion of operation of the first heating array, EG&G Rocky Flats, Inc. will verify that operational parameters are within expected values for continued operation of additional heating arrays. At that time a preliminary report will be generated. It is anticipated that this report will be available in the beginning of 1996. Given the late date of this report and in order to be of any benefit to the Feasibility Study, Test Site 3 will have to be conducted concurrently with Test Site 2.

Given the costs associated with operating the SVE system as well as the operational data that have been collected EG&G Rocky Flats, Inc. is recommending ending the extended operations period at IHSS 110 and proceeding with the planning and implementation for Test Site 3.

If extended operations were ended, the current SVE system would be available for implementation at Test Site 3. A cost savings of approximately $12,000 per week would be realized. EG&G Rocky Flats, Inc. has evaluated applicable sites for implementation of the SVE system. The most applicable site is the Mound area (IHSS 113). The logistical details associated with implementation of the system at IHSS 113 will be presented in the Test Plan for Test Site No. 3. It is anticipated that the planning and construction period for implementation of the SVE system at IHSS 113 would take six to nine months to complete.

SURFACE WATER IM/IRA FIELD TREATMENT UNIT

EG&G Rocky Flats, Inc. is pursuing treatment of surface water source SW-59 at the Sewage Treatment Plant (STP). Engineering for this action will take place upon receipt of authorization to discharge water to the STP. After implementation of this project, EG&G Rocky Flats, Inc. will perform a source characterization of the contamination within

SW-59, in an effort to evaluate the nature and extent of contamination at SW-59. Once SW-59 water has been sent to the STP, the Field Treatment Unit will be available for other uses and may be moved out of OU 2.

In summary, EG&G Rocky Flats, Inc. is proposing the following actions:

- Discontinue extended operations of the SVE at its current location (IHSS 110).
- Relocate the SVE system to Test Site 3 at IHSS 113.
- Implement the multiple array SPSH-SVE system at IHSS 110.
- Treat surface water from SW-59 at the STP and remove the Field Treatment Unit from OU 2.

EG&G Rocky Flats, Inc. is looking forward to the support and cooperation of DOE in this proactive approach to remediation. If you have any questions regarding the information contained in this letter, please call Robin Madel at extension 6972 or Jim McLaughlin at extension 6995.

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